

Listing of the Claims:

Claim 1 (canceled)

Claim 2 (currently amended): A circuit as defined in claim ~~1~~13 wherein the detector is a comparator.

Claim 3 (currently amended): A circuit as defined in claim ~~1~~13 wherein the detector is an electronic amplifier mounted on said circuit board.

Claim 4 (canceled)

Claim 5 (currently amended): A circuit as defined in claim ~~1~~13 wherein the first and second traces have multiple legs on each of said faces.

Claim 6 (currently amended): A circuit as defined in claim ~~1~~13 wherein the shunt resistor comprises third and forth traces electrically continuous with the first and second traces.

Claim 7 (currently amended): A fast response pulse width modulated control circuit comprising:

an electronic switch device having an output circuit and an input circuit, a milliohmic shunt resistor connected in series with the output circuit;

a detector having an input circuit connected across the shunt resistor and an output which changes state according to changes in voltages developed across the shunt resistor;

means connected to the output of the detector to control the switch device to vary the duty cycle thereof;

said shunt resistor comprising a dielectric support with first and second conductive traces printed in overlying parallel relationship on opposite faces thereof and a via through the support and electrically interconnecting the traces at one end thereof such that load current flows in opposite directions through the first and second traces.

Claim 8 (currently amended): An automotive accessory control circuit comprising an FET switch and a shunt resistor connected in series between a power supply and a drive motor;

a detector having inputs connected across the shunt resistor and an output which changes state in accordance with voltages developed across the shunt resistor;

a microcontroller having an input connected to receive the output of the detector and being programmed to provide an output which changes state in accordance with a change in state of the detector output; and

a FET driver connected to receive the output of the microcontroller for varying the duty cycle of ~~controlling the state of~~ the FET switch;

wherein said shunt resistor comprises a dielectric support with first and second conductive traces printed in overlying parallel relationship on opposite faces thereof and an electrical connector extending through the support and electrically connecting the traces at one end thereof.

Claim 9 (original): A circuit as defined in claim 8 wherein the first and second traces have multiple legs on each of said faces.

Claim 10 (original): A circuit as defined in claim 8 wherein shunt resistor comprises third and fourth traces electrically continuous with the first and second traces.

Claim 11 (original): A circuit as defined in claim 8 wherein the detector is an amplifier.

Claim 12 (original): A circuit as defined in claim 8 wherein the detector is a comparator.

Claim 13 (new): A control circuit comprising:
a pulse width modulated solid state power switch for connecting a DC power supply to a DC load device;
a shunt resistor connected in series with the switch;
a detector having inputs connected across the resistor for detecting the voltage drop across the resistor and producing an output related thereto;
a control circuit for varying the duty cycle of the switch and having an input connected to receive the output of the detector; and
a circuit board having opposite parallel surfaces; said shunt resistor comprising first and second overlying traces on said opposite circuit board

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surfaces and further including a conductive interconnection through said circuit board to connect the traces in series.